NATIONAL CANCER INSTITUTE

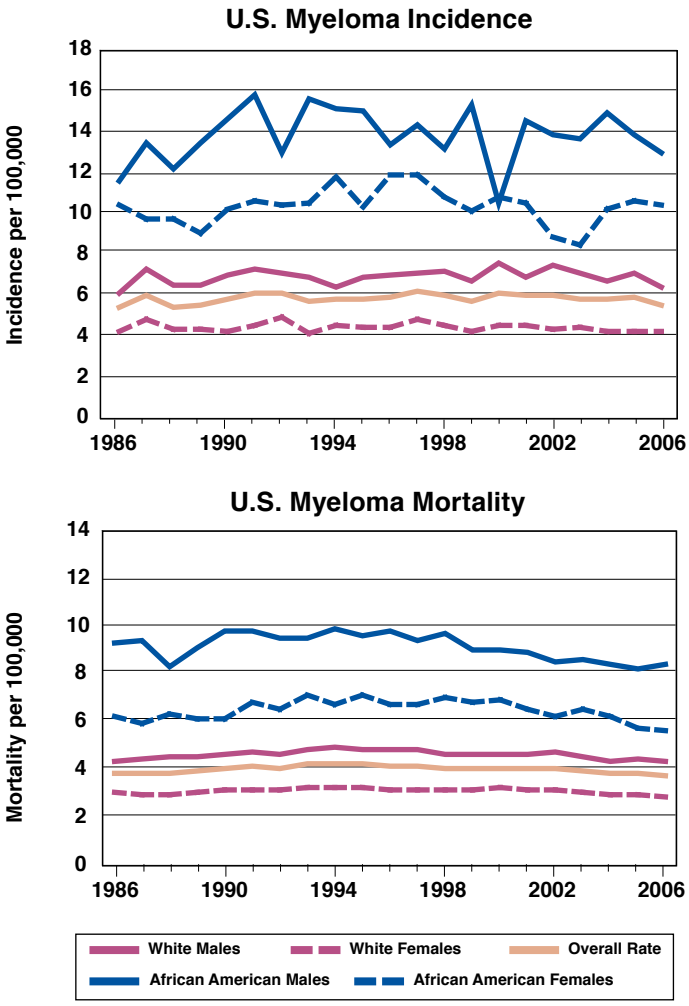
A Snapshot of Myeloma

Incidence and Mortality Rate Trends

Myeloma, also known as multiple myeloma or plasma cell myeloma, is the second most common blood cancer in the United States and comprises approximately 1 percent of all cancers. Over the past two decades, there has been no significant change in the overall incidence or mortality rates of myeloma.

The incidence rate is higher in men than in women. Myeloma is more common among the elderly, and African Americans have approximately twice the incidence and mortality rates of whites.

Source for incidence and mortality data: Surveillance, Epidemiology, and End Results (SEER) Program and the National Center for Health Statistics. Additional statistics and charts are available at http://seer.cancer.gov/.

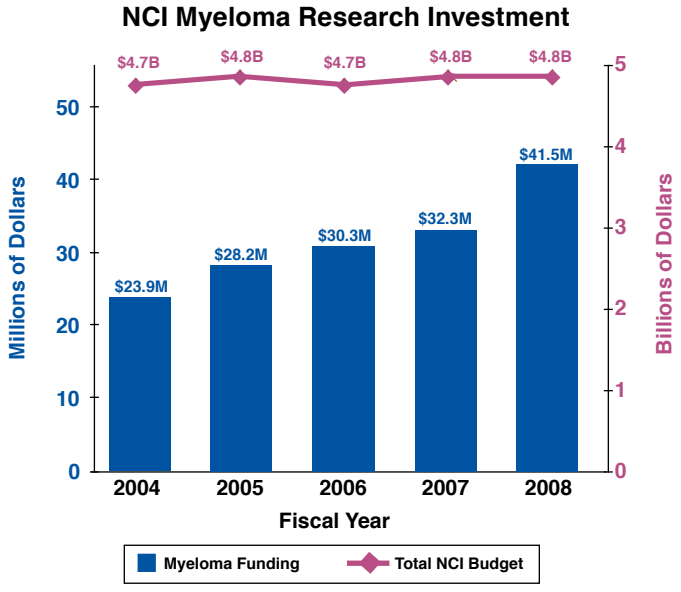


Trends in NCI Funding for Myeloma Research

The National Cancer Institute's (NCI) investment[1] in myeloma research increased from $23.9 million in fiscal year 2004 to $41.5 million in fiscal year 2008.

Source: NCI Office of Budget and Finance (http://obf.cancer.gov).

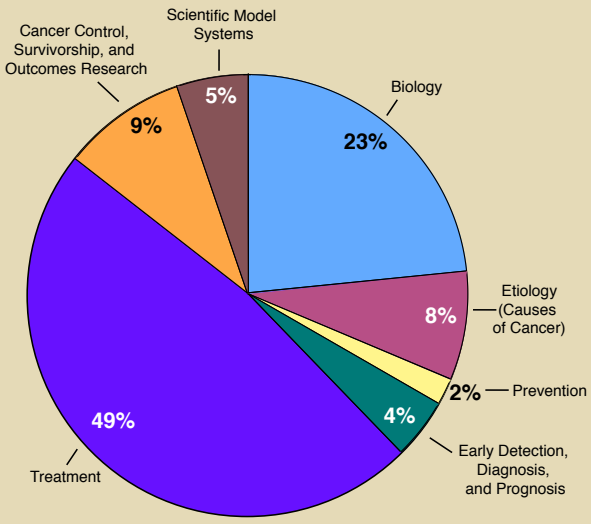
[1]The estimated NCI investment is based on funding associated with a broad range of peer-reviewed scientific activities. For additional information on research planning and budgeting at the National Institutes of Health (NIH), see http://www.nih.gov/about/.



Examples of NCI Activities Relevant to Myeloma

- The myeloma-specific **Specialized Program of Research Excellence (SPORE)** is moving results from the laboratory to the clinical setting. This program is studying novel myeloma therapies and identifying new markers of this disease. http://spores.nci.nih.gov/current/myeloma/index.htm
- The **Studies of Energy Balance and Cancer in Humans** support research to define the factors that affect energy balance and define mechanisms that influence cancer risk, prognosis, and quality of life. This program currently supports one study on myeloma. http://grants.nih.gov/grants/guide/pa-files/PA-09-148.html
- The **Quick-Trials for Novel Cancer Therapies and Prevention: Exploratory Grants** program expedites clinical translation of basic research discoveries in cancer biology through the development of novel anti-cancer drugs, diagnostic tools, treatments, and prevention strategies. This program currently supports two projects focused on immunotherapy and on improving the effectiveness of stem cell transplants in myeloma patients. http://grants.nih.gov/grants/guide/pa-files/PAR-08-025.html
- A myeloma study is under way as part of the **Patterns of Care/Quality of Care Program (POC/QOC)**, an initiative aimed at evaluating and improving the dissemination of recommended treatments. http://healthservices.cancer.gov/surveys/poc/
- The **Mouse Models of Human Cancers Consortium** has developed several models to study hematologic malignancies and has made these models available to the research community. http://emice.nci.nih.gov/mouse_models/organ_models/hema_models

NCI Myeloma Research Portfolio



Percentage of Total Dollars by Scientific Area
Fiscal Year 2008

Data sources: NCI's Division of Extramural Activities and the NCI Funded Research Portfolio. Only projects with assigned scientific area codes are included. A description of relevant research projects can be found on the NCI Funded Research Portfolio website at http://fundedresearch.cancer.gov

- The **What You Need to Know About™ Multiple Myeloma** booklet includes information about myeloma diagnosis, treatment, and supportive care. Information specialists can also answer questions about cancer at 1-800-4-CANCER. http://www.cancer.gov/cancertopics/wyntk/myeloma
- The **Multiple Myeloma/Other Plasma Cell Neoplasms Home Page** directs visitors to up-to-date information on myeloma treatment, prevention, genetics, causes, and other topics. http://cancer.gov/CancerInformation/CancerType/plasmacellneoplasm

Selected Advances in Myeloma Research

- Researchers discovered that **development of myeloma involves an abnormal gene expression program**, controlled by a protein called IRF4—a potential target for new therapies. http://www.ncbi.nlm.nih.gov/pubmed/18568025
- A large nationwide study determined that, years before being diagnosed with multiple myeloma, **patients develop a pre-malignant disorder called monoclonal gammopathy (MGUS)**. http://www.cancer.gov/ncicancerbulletin/022409/page2
- Changes in tumor cell **gene expression profiles caused by short-term treatment with chemotherapeutic agents** may help guide treatment decisions for multiple myeloma patients. http://www.ncbi.nlm.nih.gov/pubmed/18676754
- **Men who use pesticides occupationally have a nearly two-fold increased risk for MGUS**, a precursor for multiple myeloma, adding support for the hypothesis that pesticides are linked to the development of multiple myeloma. http://www.ncbi.nlm.nih.gov/pubmed/19387005